

Remarks

Claims 1-20 were pending in the application. Claims 7, 8, and 17-20 were withdrawn from consideration. Claims 1-6 and 9-16 were rejected. Claims 1, 7, and 17-20 are amended. Claim 21 is added. Claims 1-21 are now pending. Claim 1 is the independent claim. Reconsideration of the amended application is respectfully requested.

The examiner acknowledged the applicants' traversal of the examiner's restriction requirement. In view of the newly-cited prior art, the examiner made the requirement final. However, in view of amended claim 1, it is submitted that the cited reference (Washington et al.) does not disclose or suggest all of the features common to the claims of Inventions I and II as identified above. Namely, the cited reference does not disclose or suggest the claimed feature of a frame element that is provided at one side with a structure that is electrically conductive in portions, wherein the structure includes conductor sections, each said conductor section extending between at least two perforations such that individual ones of the conductor sections have no contact with any other said conductor section, thereby providing a monopolar wiring of the ribs of the plate elements received by the perforations. In view of this deficiency of the cited prior art, it is submitted that the common subject matter of the respective inventions makes a contribution over the prior art as represented by Washington et al., and therefore satisfies the unity of invention requirement. The restriction requirement, therefore, should be withdrawn and withdrawn claims 7, 8, and 17-20 considered pending.

The examiner required corrected drawing sheets designating Figs. 1 and 2 as prior art. Corrected drawing sheets are submitted herewith.

The examiner rejected claim 1 under 35 USC §102(b) as being anticipated by Washington et al.

As amended, claim 1 recites a frame element for a monopolar stack. The frame element includes a plurality of perforations for passing therethrough ribs of plate elements that are arranged to form a stack. The frame element is provided at one side with a structure that is electrically conductive in portions. The structure includes conductor sections, each conductor section extending between at least two perforations such that individual ones of the conductor sections have no contact with any other conductor section, thereby providing a monopolar wiring of the ribs of the plate elements received by the perforations. The features added to the claim by this amendment are described in the specification as filed, for example, at page 14, lines 18-21 and page 11, lines 5-7.

In contrast, Washington et al. disclose an edge manifold assembly for an electrochemical fuel cell stack that does not include all of the features of claim 1. The examiner identified the fluid flow field plate 260 of the Washington et al. embodiment shown in Figs. 20 and 21 as corresponding to the claimed frame element. This plate 260 has attached thereto four non-contiguous edge manifold plates 262a-d, each along one of the sides of the plate 260. Each edge manifold plate 262 has a pair of interior manifold openings 264a-d and fluid communication channels 265a-d. The face of the plate 260 includes a flow channel 260.

While it is questionable as to whether the fluid flow field plate 260 represents a frame element as recited in claim 1, it is clear that Washington et al. do not disclose or

suggest that the plate 260 includes a structure that is electrically conductive in portions, including conductor sections, such that each conductor section extends between at least two perforations so that individual ones of the conductor sections have no contact with any other conductor section, to provide a monopolar wiring of the ribs of the plate elements received by the perforations, as recited in claim 1.

For at least the reason noted above, it is submitted that Washington et al. do not anticipate the invention as recited in claim 1. The rejection, therefore, should be withdrawn.

The examiner rejected claims 2, 3, 6, 13, and 14 under 35 USC §103(a) as being unpatentable over Washington et al.

Claims 2, 3, 6, 13, and 14 depend from claim 1. As noted above, Washington et al. do not disclose or suggest certain features of claim 1, and offer no reason why these missing features would be included in the Washington et al. design. Thus, claim 1 also is not obvious in view of Washington et al., and therefore claims 2, 3, 6, 13, and 14 also are not unpatentable in view of Washington et al., for the reasons noted above with respect to claim 1, as well as because of the additional features these claims recite. The rejection of claims 2, 3, 6, 13, and 14, therefore, should be withdrawn.

The examiner rejected claims 4, 9, and 15 under 35 USC §103(a) as being unpatentable over Washington et al., in view of Zeilinger et al.

Claims 4, 9, and 15 depend from claim 1, which is discussed above with respect to Washington et al. Zeilinger et al. disclose a method and apparatus for monitoring a selected group of fuel cells of a high-temperature fuel cell stack. However, Zeilinger et

al. do not overcome the deficiencies noted with respect to Washington et al. in disclosing the features of claim 1. That is, Zeilinger et al. do not disclose or suggest a frame element that is provided at one side with a structure that is electrically conductive in portions, where the structure includes conductor sections such that each conductor section extends between at least two perforations so that individual ones of the conductor sections have no contact with any other conductor section, to provide a monopolar wiring of the ribs of the plate elements received by the perforations, as recited in claim 1.

Because neither cited reference discloses or suggests at least the noted features of claim 1, no combination of the teachings of the cited references could render obvious the invention as recited in claim 1. Claims 4, 9, and 15 depend from claim 1 and therefore also would not be rendered obvious by any combination of the cited references. The rejection of claims 4, 9, and 15, therefore, should be withdrawn.

The examiner rejected claims 5, 11, 12, and 16 under 35 USC §103(a) as being unpatentable over Washington et al., in view of Kikuchi et al.

Claims 5, 11, 12, and 16 depend from claim 1, which is discussed above with respect to Washington et al. Kikuchi et al. disclose a fuel cell stack. However, Kikuchi et al. do not overcome the deficiencies noted with respect to Washington et al. in disclosing the features of claim 1. That is, Kikuchi et al. do not disclose or suggest a frame element that is provided at one side with a structure that is electrically conductive in portions, where the structure includes conductor sections such that each conductor section extends between at least two perforations so that individual ones of the conductor

sections have no contact with any other conductor section, to provide a monopolar wiring of the ribs of the plate elements received by the perforations, as recited in claim 1.

Because neither cited reference discloses or suggests at least the noted features of claim 1, no combination of the teachings of the cited references could render obvious the invention as recited in claim 1. Claims 5, 11, 12, and 16 depend from claim 1 and therefore also would not be rendered obvious by any combination of the cited references. The rejection of claims 5, 11, 12, and 16, therefore, should be withdrawn.

The examiner rejected claim 12 under 35 USC §103(a) as being unpatentable over Washington et al., in view of Zeilinger et al., and further in view of Kikuchi et al.

Claim 12 depends from claim 1, and is discussed above with respect to Washington et al. and Kikuchi et al. Also, as discussed above, Zeilinger et al. disclose a method and apparatus for monitoring a selected group of fuel cells of a high-temperature fuel cell stack. However, as noted above, neither Zeilinger et al. nor Kikuchi et al. overcome the deficiencies noted with respect to Washington et al. in disclosing the features of claim 1. That is, either reference discloses or suggests a frame element that is provided at one side with a structure that is electrically conductive in portions, where the structure includes conductor sections such that each conductor section extends between at least two perforations so that individual ones of the conductor sections have no contact with any other conductor section, to provide a monopolar wiring of the ribs of the plate elements received by the perforations, as recited in claim 1.

Because none of the cited references discloses or suggests at least the noted features of claim 1, no combination of the teachings of the cited references could render

obvious the invention as recited in claim 1. Claim 12 depends from claim 1 and therefore also would not be rendered obvious by any combination of the cited references. The rejection of claim 12, therefore, should be withdrawn.

Based on the foregoing, it is submitted that all rejections have been overcome. It is therefore requested that the Amendment be entered, the claims allowed, and the case passed to issue.

Respectfully submitted,



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Date

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